

5 WHAT IS CLAIMED IS:

1. A porous resin film comprising:

30 to 90 wt% of a thermoplastic resin comprising a hydrophilic thermoplastic resin component; and

10 70 to 10 wt% of an inorganic or organic fine powder.

2. The porous resin film as claimed in Claim 1, wherein said film has a porosity of 10% or above.

15 3. The porous resin film as claimed in Claim 1, wherein a surface of said film has a contact angle to water of 110° or less.

4. The porous resin film as claimed in Claim 3, wherein a difference between a maximum value and a minimum value of said contact angle to water is 30° or less.

20 5. The porous resin film as claimed in Claim 1, wherein said thermoplastic resin further comprises a non-hydrophilic resin component, and wherein said thermoplastic resin comprises 5 to 100 weight parts of said hydrophilic thermoplastic resin component per 100 weight parts of said non-hydrophilic resin component.

25 6. The porous resin film as claimed in Claim 1, wherein said thermoplastic resin component is a polyolefin-base resin.

30 7. The porous resin film as claimed in Claim 1, wherein said hydrophilic thermoplastic resin component is an alkylene oxide-base polymer.

8. The porous resin film as claimed in Claim 7, wherein said alkylene oxide-base polymer is a reaction product of a polyalkylene oxide compound and a dicarboxylic acid compound.

35 9. The porous resin film as claimed in Claim 7, wherein said alkylene oxide-base polymer is obtained by polymerizing an organic compound having two active hydrogen

atoms with ethylene oxide to obtain a product, polymerizing the product with a C₄ or larger alkylene oxide to obtain a second product, and further polymerizing the second product with ethylene oxide.

10. The porous resin film as claimed in Claim 7, wherein said alkylene oxide-base polymer has an alkylene oxide portion having a weight-average molecular weight of 5,000 to 30,000.

11. The porous resin film as claimed in Claim 7, wherein said alkylene oxide-base polymer has a weight-average molecular weight of 20,000 to 400,000.

12. The porous resin film as claimed in Claim 1, wherein said inorganic or organic fine powder has an average grain size of 0.1 to 10 μm .

13. The porous resin film as claimed in Claim 1, further comprising a non-hydrophilic thermoplastic resin component and 0.01 weight parts or more of a dispersion modifier for promoting mutual dispersion of said hydrophilic thermoplastic resin component and said non-hydrophilic thermoplastic resin component per 100 weight parts of said non-hydrophilic thermoplastic resin component.

14. The porous resin film as claimed in Claim 13, wherein said dispersion modifier is a polar resin or a phosphorus-containing compound.

15. The porous resin film as claimed in Claim 14, wherein said polar resin is contained in an amount of 0.1 weight parts or more per 100 weight parts of said non-hydrophilic thermoplastic resin component.

16. The porous resin film as claimed in Claim 15, wherein said polar resin is selected from the group consisting of epoxy group-containing olefinic copolymers and epoxy group-containing diene-base polymers.

17. The porous resin film as claimed in Claim 14, wherein said phosphorus-containing compound is contained in an amount of 0.01 weight parts or more per 100 weight parts of

5 said non-hydrophilic thermoplastic resin component.

18. The porous resin film as claimed in Claim 17, wherein said phosphorus-containing compound is selected from the group consisting of phosphites and phosphonate compounds.

10 19. The porous resin film as claimed in Claim 1, wherein said film is stretched.

20. The porous resin film as claimed in Claim 1, wherein said film has a surface finished by oxidation treatment.

15 21. A stacked material comprising a base layer and a porous resin film as claimed in Claim 1 on at least one side of said base layer.

20 22. The stacked material as claimed in Claim 21, wherein said base layer comprises a resin film which contains 40 to 100 wt% of a thermoplastic resin and 60 to 0 wt% of an inorganic or organic fine powder.

23. The stacked material as claimed in Claim 22, wherein said resin film is stretched.

25 24. The stacked material as claimed in Claim 22, wherein said inorganic or organic fine powder contained in said resin film has an average grain size of 0.1 to 10 μm .

30 25. The stacked material as claimed in Claim 22, wherein said thermoplastic resin contained in said resin film is selected from the group consisting of a non-hydrophilic thermoplastic resin, a hydrophilic thermoplastic resin, and a mixture of a non-hydrophilic thermoplastic resin and a hydrophilic thermoplastic resin.

35 26. The stacked material as claimed in Claim 22, wherein said thermoplastic resin contained in said resin film is selected from the group consisting of an olefinic thermoplastic resin, a hydrophilic thermoplastic resin, and a mixture of an olefinic thermoplastic resin and a hydrophilic thermoplastic resin.

27. A recording medium comprising a porous resin film as claimed in Claim 1.

28. A recording medium comprising a porous resin film as claimed in Claim 21.

29. An ink-jet recording medium comprising a porous resin film as claimed in Claim 1.

10 30. An ink-jet recording medium comprising a porous resin film as claimed in Claim 21.

THE FOLLOWING